



**Transcript: #369 How Chemicals Wreak Havoc On Your Hormones and Weight Loss with Dr. Aly Cohen**

**Wendy Myers:** Everyone, how are you doing? My name is Wendy Myers of [myersdetox.com](http://myersdetox.com). I'm so excited to talk to you guys today. We have an amazing interview. We have Dr. Aly Cohen and she is a medical doctor, a rheumatologist and an expert on toxins. We had such a fun time going back and forth today. We're going to be talking about how chemicals wreak havoc on your hormones and weight loss. We're going to talk about a lot of different tips.

**Wendy Myers:** She's got a new book out called Non-Toxic and it's a wealth of tips and tricks in that book to help you live healthier non-toxic lifestyle and we're going to go into a lot of those tips today on the show, but we'll also talk about the specific ways that toxins inhibit weight loss and cause weight gain, how they inhibit stem cells and cause stem cells to make fat cells and why we think that the obesity epidemic is not necessarily what people are eating the number of calories, it's the toxins also are playing a major role.

**Wendy Myers:** We'll talk about the problem with hand sanitizer and disinfectants that companies everywhere are going nuts with and what you don't know about them is harming your immunity. We'll talk about the insidious nature of toxins and how something you can't see causes so much harm. We're going to talk about why your hormones are a mess and how the most common chemicals do the most damage to our hormones.

**Wendy Myers:** We'll discuss how drinking water has only 91 chemicals removed out of the 90,000 in our environment. What? We'll talk about why teenagers are at the highest risk group for a chemical exposure. We'll explain why and what you can do to help educate your teenagers. They want to hear this information, and how the most lasting damage from toxins began when you were in utero growing in your mother's womb and how to have a healthy child and a healthy pregnancy.

**Wendy Myers:** We'll also discuss the health issues namely autoimmune that toxins cause and we go over the problems with vapes. A topic I haven't talked about before. I know you guys listening to the show are really concerned about toxins in your body, wondering about your body burden of toxic metals and what to do about those, how to get those toxins out of your body. I created a quiz. It's called [heavymetalsquiz.com](http://heavymetalsquiz.com). Take a two minute quiz and you get a totally free video series that talks about all your most frequently asked questions like what supplements should I take to detox? How long does it take to detox? What kind of test should I do? Many, many more videos that answer all of your burning questions you have to figure out how to detox and feel better in your life, have more energy and less brain fog, more mental clarity, more happiness and joy.

**Wendy Myers:** Our guest today, Dr. Aly Cohen. She is a board certified rheumatologist and integrative medicine specialist as well as an environmental health expert in Princeton, New Jersey. She has collaborated with the environmental working group, Cancer Schmancer. I love that name, and other disease prevention organizations and as a co-editor of the textbook Integrative Environmental Medicine.

**Wendy Myers:** In 2015, she created [thesmarthuman.com](http://thesmarthuman.com) to share environmental health, disease prevention, and wellness information to the public. She lectures nationally on environmental health topics for elementary, high schools, colleges, universities, medical schools, and physician training programs, and she's a regular expert guest for television, print, and podcasts. In 2015, she received the New Jersey Health Heroes Award in Education for the Smart Human Educational Platform. She was awarded the 2016 Burton L. Eichler Award for Humanitarianism.

**Wendy Myers:** Dr. Cohen is working to educate and empower the next generation to make safer, smarter lifestyle choices through the creation of environmental health and prevention curricula for schools nationally. Her TEDx Talk, how to protect your kid from toxic chemicals, can be found on YouTube. You can follow her health and wellness tips and recommendations on Facebook at the Smart Human, Twitter and Instagram at the Smart Human. You can also sign up for the Smart Human newsletter at [thesmarthuman.com](http://thesmarthuman.com).

**Wendy Myers:** Dr. Aly Cohen is the co-author of a new consumer guide book we discussed on the podcast today, Non-Toxic: Guide to Healthy Living in a Chemical World. Non-Toxic is part of the Dr. Andrew Weil Healthy Living Guides. You can learn more about Aly and her work at [alycohenmd.com](http://alycohenmd.com). Dr. Cohen, thank you so much for joining us.

**Dr. Aly Cohen:** Thank you so much for having me here.

**Wendy Myers:** Why don't you tell us a little bit about your story and how you got into all things non-toxic?

**Dr. Aly Cohen:** Well, I stumbled into it. It was not by choice. I really do believe I'd be a conventional western rheumatologist if it wasn't for the fact that my dog had gotten really sick back in 2000. God, I can't remember. Was it 2007 or '08. He was a really just a beautiful dog. I was a young mom with two young kids, really young kids and he was my dog. He was four and a half years old, and got really ill.

**Dr. Aly Cohen:** We thought he swallowed a sock, which is what Golden Retrievers do, but by the time we found out what he had, it turns out that he had what was called autoimmune hepatitis, which is when the body of a human or pet, the immune system gets triggered to fight itself. In his case his liver.

**Dr. Aly Cohen:** It's just a really upsetting situation. We didn't know how it was triggered. I had to really think. Was it his dog food, contaminated water? Was it pesticides? We live in central New Jersey and we live on a farm. There's spraying of glyphosate and all these other pesticides all around us for many, many years. Then, I thought about his dog collar. I thought about all of the flea and tick medications that we had used. I thought about this red plastic toy that was in his mouth that would never leave his mouth.

**Dr. Aly Cohen:** It was in his mucous membranes of his mouth it was getting highly absorbed into his body, but at that time I didn't know anything. I really was just trying to explore it and the more I was looking into what might have made him sick, the more I started finding out how unregulated all of our products as human beings in the US are. It was blowing my mind. I had no idea that cosmetics, personal care products, cleaning products in this country are never tested for safety or toxicity before they end up on shelves, which end up in our homes, which end up in our kids and our pets.

**Dr. Aly Cohen:** That's really how this whole 8-year, 10-year journey began. It was just out of heartbreak. I write about this in my book. It's all in the introduction. I thought that it was worthwhile doing that so people can understand sort of this journey not by choice, but by sort of sad desperation. That's brought me here. Years later, now I'm in a different place.

**Wendy Myers:** Yeah. I feel like people, I'm the same way. I had two dogs. They passed already, but I had my beloved Jezebel and I was doing the same thing trying to figure out like what was going with their health as well, and whatever reaches you, whatever kind of wakes you up to this toxic world we're in I think is to a certain degree really kind of beneficial or a blessing.

**Dr. Aly Cohen:** We walk around without any concern because not a lot of the stuff that we're around may be harmful, but it doesn't affect us in any visual way like a rash. It doesn't make us gain weight visually over a short period of time. We walk around just kind of assuming everything is okay and that the government oversees all of these tests and chemical testing before they go into products, but here in this case it was just, boom, smack in my face that something went

wrong. I would have probably not bothered to dig deeper had it not been for such a jarring moment.

**Wendy Myers:** Yeah. What is that? What is going on with chemical testing? Because I thought that too as a teenager, I thought, "Oh, this beauty product I'm using and read the ingredients and these all must be safe because the government and the EPA protect us from chemicals." What is the reality? Are chemicals that are unleashed into our environment every day tested for safety?

**Dr. Aly Cohen:** We have to categorize them in groups. For instance, medications are covered by the FDA. They are rigorously tested. That's perhaps the only thing that's really well tested. Also, the word organic or USDA organic is also another criteria given by the government. In fact, in 2012, that has teeth. That actually has meaning, but everything else, all natural, no fragrance, fragrance-free, all these things are not actually held up in a court of law or required for third party testing or certification.

**Dr. Aly Cohen:** We have laws that started in the 1930s. Actually, 1938, and the Food Drug and Cosmetic laws of 1938. Then, 1958, and all these different mild revisions, but nothing ever held manufacturers in the United States to requiring testing for safety or toxicity in human beings before they're sent to market and within human beings there's also pregnant women, people with autoimmune diseases or dysfunctional immune systems, children, and so none of this has ever been tested.

**Dr. Aly Cohen:** There are over 11,000 food additives that are not tested rigorously before going into food systems and food packaging. If they end up causing harm, if there's enough of a ground swell where there's some product that's causing harm, you remember maybe the hair products that cause people's hair to come out. The only way they're removed from the shelves is if the manufacturer removes them from store shelves. It is not even our government that has the power to do that.

**Wendy Myers:** It's just so crazy when you think about it, because you think that food additives and beauty products and other things that you're using are safe. It's really just self-regulation essentially.

**Dr. Aly Cohen:** Right, and we love our stuff. I mean Americans love their stuff. I love my stuff. If you think about just cleaning products, it's a billion dollar industry. We do a whole overview on this in the book. It's a billion dollar industry that has just exploded even more so because of the pandemic. Now, you have this fear factor coming in as well, which is adding a whole plethora of untested very harmful disinfecting chemicals. Not saying that to downplay coronavirus or COVID, but there are certainly judicious ways to use these more heavily astringent type of disinfectants than really just cleaning products that can be very safe if you choose wisely, but we have cleaning products for doorknobs and light switches and this material and that material and windows and if you break down every component of your home, carpet powders.

**Dr. Aly Cohen:** It's just like a huge market for cleaning when really all we need is white vinegar, clean water, little essential oils that are organic, a little lemon juice, maybe some sea salt for scrubbing. We need to go back to the baking sodas, to the grandma's choices, and not get really sucked into this groundswell of fear and just assume that all of these products are safe, because I'll tell you they are not in many, many ways. I can go into that in terms of how they can be health issues.

**Wendy Myers:** Yeah. The whole coronavirus decontamination frenzy drives me nuts. I avoid the hand sanitizer when I wash. Soap and water is enough. It's enough for the flu virus, it kills everything. Just soap and water.

**Dr. Aly Cohen:** Yes. Soap, water and 20 seconds because time matters. But soap really just breaks it up and moves it away. Disinfectants kill things, but also with disinfectants they tend to be antibiotics or things that will cause bacterial resistance in the future and that's a big sell as people think that an antibacterial component is actually going to kill a virus. Antibiotics don't kill viruses. There's a whole bunch of marketing.

**Dr. Aly Cohen:** I wish I had the product that my sister-in-law was saying everyone's buying like crazy. Microban maybe. It raves about antibacterial ability, but guess what? Coronavirus is a virus. Then, if you look at the inactive ingredients, forget the toxic active ingredients, which, again, likely have never been tested for safety and are likely problematic, which we can go into some specific ones that have been tested.

**Dr. Aly Cohen:** The inactive ingredients which are on the bottom of the bottle are filled with chemicals that can even be more toxic. I'll show you. There's one type of cleaning... Let me just give it to you. Another type of anti-COVID process is just isopropyl alcohol and isopropyl alcohol if it's 90% or greater in terms of... Actually, 70% or greater in concentration and if you look closely, active ingredients are isopropyl alcohol, inactive ingredient water.

**Wendy Myers:** Yeah.

**Dr. Aly Cohen:** Even something like that, which I carry around in my pocket book everywhere I go, I spritz everybody. People don't even know I'm coming. But the idea is that, that is just as easy and better than even a hand gel sanitizer because there's so many inactive goeey chemicals that cross through the skin barrier, the dermis of the skin and get into the bloodstream. We really want to avoid that.

**Wendy Myers:** Yeah. Your skin, it's like anything you put on it, it's just you're mainlining it into your bloodstream and causing so many issues. Yeah. I hate all the disinfection going on. The airplanes, the hotel rooms, everything's been disinfected for your safety. Our bodies were designed over millions of years to deal with bacteria, to deal with viruses. They were not designed to deal with the onslaught. I mean they can deal with some heavy metals and whatnot, but they just are not

equipped to deal with the level of chemicals and disinfectants and things that we are just bombarded with every single day.

**Wendy Myers:** This is in fact one of the reasons why I got divorced from my ex-husband is because he was a germaphobe, and I just was so the exact opposite of that. He was constantly disinfecting everything and wanted all these chemicals. I'm like, "I can't live like this. It's so unhealthy."

**Dr. Aly Cohen:** Yeah. Quite frankly, you can get, especially if you don't really have a background to kind of defuse some of the hysteria, you can go nuts. For instance, it was years ago I was looking for tile sealant in our bathroom we were renovating and they were promoting... I think it was Bactroban. It was a type of antibiotic that's actually used in humans for actual infections. They were infusing it into tile sealant and saying that that's a great way to keep your bathroom antiseptic.

**Dr. Aly Cohen:** I thought to myself that's insane because you're going to walk around a bathroom basically creating bacterial resistance, because, again, bacteria when they're exposed to antibiotics will often mutate so that they're actually not going to be effective when and if you actually need an antibiotic. Here you are dousing yourself in an antibiotic on a daily basis by walking on these tiles or the sealants and it's just we've missed the mark in terms of understanding it.

**Dr. Aly Cohen:** It's also been overloaded by the marketing of the industry, which is just so lucrative that we have to hold, we have to pull back. In terms of the numbers, I figured I'd just throw a couple numbers at your audience and maybe you know this Wendy is we have over 90,000 commercial and industrial chemicals, basically all chemicals that can be used in products in the US market right now.

**Dr. Aly Cohen:** Those 90,000, probably 85,000 of them if not more have never been tested for safety or toxicity. We have over 800 known endocrine disrupting chemicals, which BPA is one of them. Some of your audience members may remember BPA or bisphenol A in baby bottles and that was removed, because of its endocrine disrupting capability in children. They got it off the market in plastic baby bottles in 2012, but there are over 800 of those including pesticides in that group, including cosmetic chemicals, including food additive chemicals.

**Dr. Aly Cohen:** We have over 15 polymers that are patented every week in this country. You can see it's like a whack-a-mole. We can't really even catch up even if regulation were to change, which it hasn't, even if the proposed regulation were to require testing, the actual working number is 10 chemicals per year to evaluate for safety by the EPA. We have 90,000 chemicals. You can see this is never going to work, and which is why I felt very compelled to write this book about... I'll hold it up.

**Dr. Aly Cohen:** It's called Non-Toxic. It's called Guide to Living Healthy in a Chemical World. It's the book that I wish I had 10 years ago without having to figure it out over a 10-year period and really, it's because we have to do it for ourselves. We have to

empower ourselves and our teenagers and our kids and everyone to be able to look up your cosmetics on vetted websites to see which are safe and which are not so safe, and make choices that are good for us.

**Dr. Aly Cohen:** We need to look up water filters and get clean water systems for ourselves or we need to look at furniture and how to read a label to see whether a couch has flame retardant chemicals, which are endocrine disruptors. I wanted people to do it themselves, rely on their ability to look it up themselves, and not wait for the government to improve the system that's not... It's not actually working.

**Wendy Myers:** No. I mean they do a much better job in Europe and even Russia protecting their citizens from various toxins. In the US our government is very bought and paid for by these big corporations that are protecting their interest and not protecting the interests of the citizens.

**Dr. Aly Cohen:** That's true. California is ahead of the game. Canada, Europe, I don't know much about Russia. What I do know I'm not so thrilled about, in terms of even their vaccine issues... So I can't speak to it, but I know that in Europe, in the EU, they have a much more rigorous process by vetting the chemicals that go into their cosmetics. They have taken over 1200 chemicals out of their system, which they will not allow in their products, cosmetics and cleaning and all that, whereas the US hasn't done that. The United States has removed five chemicals from its market since 1976.

**Wendy Myers:** Wow I didn't know that. I think that's incredibly shocking.

**Dr. Aly Cohen:** Some companies will actually formulate shampoo, conditioner, and certain cosmetics for the US market with the same bottle front as they'll do for Europe without all those chemicals, because they don't want to reformulate what they've already created because there's million dollars of R&D and figuring out how to do that. We now know that there are two different products that have different chemicals that are sold to two different markets.

**Dr. Aly Cohen:** It's pretty insane. Again, it goes back to the idea that we can reduce chemicals that actually get into our bloodstream, our urine, our breast milk. We can actually reduce those. There's plenty of great studies that we talk about in the book that give people an idea that when you switch to say organic produce, you can lower the pesticide residues that are found in blood and urine. This has been tested particularly in migrant farmers and their children, but also in everyday folks. People who aren't working in those industries.

**Dr. Aly Cohen:** There's got to be studies to show that when you make lifestyle changes in very reasonable ways, which is what I'm all about. It's easy practical, reasonable, not costly ways to make these switches that you can lower those exposures, which in fact lead to less inflammation in the body, because there's studies on inflammation based on certain chemicals that we now know. Also, you will not only live longer with less chronic conditions like diabetes and obesity, and heart

disease and kind of endocrine related, hormone related issues, cancers, but also reduce reaction to COVID infection.

**Dr. Aly Cohen:** That is actually really key. What is your baseline level of inflammation that you walk around with and does that prime your immune system to a worse response when you are exposed to any virus, but particularly now, COVID virus?

**Wendy Myers:** Right. Can you talk a little bit more about toxins and immunity? Because that's a hot topic right now because I focus more on heavy metals on my site and I talk about how that affects the body and we know that mercury, lead, cadmium, and arsenic have a very devastating effect on immunity, and immune cell function. Can you talk about chemicals and how they affect the immune system?

**Dr. Aly Cohen:** Yeah. The chemicals that have been tested, again, are done by universities and institutions internationally with shared databases, but there are a limited number of chemicals or groups of chemicals. We have phthalates that are in plastics. We have BPA, which is a plastic epoxy coating for canned foods. Yeah. These are groups of endocrine disrupting chemicals.

**Dr. Aly Cohen:** Now, the endocrine system which is our hormones, which many people will think of thyroid hormone, fertility hormones, puberty hormones, testosterone and estrogen, but we also have hormones like insulin. Insulin is a hormone. It's a messenger. Hormones are just messengers that are very, very tiny in terms of their amount that cause really kind of exponential physiologic changes. They're messengers that are very vulnerable.

**Dr. Aly Cohen:** The endocrine system is not completely siloed or separate from the immune system. In fact, they're very much connected. They interact with each other, because those hormones affect the immune system's function as well as messengers. When we think of endocrine disrupting chemicals there are many of those chemicals that have also been found, like bisphenol A, to affect the immune system in terms of inflammation.

**Dr. Aly Cohen:** Then, of course, endocrine disruption can cause risk for chronic diseases that are very inflamed such as diabetes, obesity, heart disease, autoimmunity, infertility, which is a very big deal. They're connected. It's kind of hard to... We do this in the book in the first chapters to kind of show people how intricate the connections are, and how this might work, but we're talking about if you look at it like an army and soldiers and generals, there's a whole hierarchy of commanders, all the way down to the soldiers, and they're all telling people what to do and what these soldiers should do.

**Dr. Aly Cohen:** When you have chemicals that mimic those soldiers or mimic those generals, then you're getting all this disruption and the messaging is all getting screwed up. That's how we know that fat cells enlarge from endocrine disrupting chemicals many of them, so despite a good healthy diet, if your salad is in plastic and you're getting all these hot plastic foods that are dietary, you may still gain

weight because the plastics are actually affecting your fat cells despite a healthy diet.

**Wendy Myers:** Let's talk about that a little bit more, because I think that's something that really keeps people's interest and I personally believe and know from the research that this obesity epidemic that we have in the United States and growing around the world, diabetes is growing around the world, that metabolic syndrome, it's not just the amount of food that people are calorically eating, it's much more than that. Can you fill us in on that?

**Dr. Aly Cohen:** Yeah. That's where a lot of this hormone disruption can come in. It shows basically what we're seeing as that despite food changes in terms of when you hold those things stable, say calorie content, quality of their food in terms of fats, proteins, carbohydrates. The research is really panning out that it's not just how much saturated fat, or sedentary lifestyle, but it's the chemicals that are in the processed foods that we eat.

**Dr. Aly Cohen:** Whole foods tend to have the least amount of chemicals although they may have pesticides from growing them in fields, we want to get those pesticides off. We want to make sure that we have the least amount of pesticide residue on and in the fruit. Organics are great, but you can also wash lots of fruits and vegetables. Soak them in baking soda, white vinegar with warm water and agitate it. We want to get those chemicals off because it's not just the quality of the food that may be making people, especially processed foods gain weight, but it's the way those chemicals affect fat cells.

**Dr. Aly Cohen:** They direct stem cells which are the beginner cells in our bone marrow to come out of bone marrow and grow into fat cells and they make fat cells enlarge and decrease variably. They affect insulin and how insulin breaks down glucose. If they do disrupt the hormone insulin, you can affect, obviously, how efficient glucose is broken down, and so that's metabolic syndrome.

**Dr. Aly Cohen:** There's these chemicals that are having this effect that are so different than just saying, "Okay. Yeah. I'm cutting back on fats or i'm increasing my protein." That's just a category. That's not necessarily looking at the quality of the food and the amount of processed chemicals in there.

**Dr. Aly Cohen:** Another aspect which I would like to mention is that the gut microbiome, which is all of the bacteria, the viruses live in there, molds, yeast, and they're supposed to live there all balanced and they're part of our evolutionary system for millions of years. When you disrupt this balanced microflora of the gut, it has been shown that it can disrupt how we break down calories, how we distribute and pull out nutrients from food. The big mantra, the big movement in holistic health integrative functional medicine is really how do we maximize the health of the gut so that then the gut is good to us in terms of our immune system, our endocrine system, and even our weight.

**Dr. Aly Cohen:** We want to make sure we have good healthy whole foods. You want to avoid chlorinated, unfiltered drinking water. You want to avoid processed chemicals and foods because many of them, not just pesticides, but colors, preservatives, and emulsifiers can disrupt the gut as well the microbiome. Stress. Stress can change the pH of the gut, proton pump inhibitors like omeprazole for reflux. All of these disrupt the normal evolutionary balance of the gut. I think when people start to get that in order they may see some really good benefits to cleaner eating for their weight and for their chronic health condition risk.

**Wendy Myers:** Can you also talk about liver health and how poor liver function can contribute to weight gain and the epidemic of non-alcoholic fatty liver disease? And even there's estimated 100 million people have non-alcoholic fatty liver disease, but beyond that there's people with poorly functioning livers, overwhelmed livers that aren't like a clinically diagnosable illness. Can you talk a little bit about that?

**Dr. Aly Cohen:** Well, our liver is a really critical organ in the human body for a variety of reasons, because our body manages blood clotting or not blood clotting through the liver factors, but we also have this detoxification system. Stage one and two conjugation which in fancy terms is essentially the way we process chemicals that we're able to, at this point in evolution, break them down and kind of get them out of the body or make them inactive.

**Dr. Aly Cohen:** It's just as important to make them inactive as it is even to get them out of the body without causing harm during that time period. The liver is really... We have other detox components of the body, the kidney is another one, our lymph system is really able to pull chemicals around and out of the body. Even our brain, our cerebral spinal fluid. The fluid in and around our spinal cord and brain clears chemicals at night.

**Dr. Aly Cohen:** We have really cool studies from 2013 and '14 that really started the whole understanding that at night while we sleep, we're actually getting rid of chemicals. It's kind of a rinse cycle of getting it out of our brain fluid, so therefore, sleep is not just for cognition and memory and feeling good and feeling rested. It's really also to utilize the cleansing process at night. But the kidney and the liver and the lymph nodes and cerebral spinal fluid, all they really do is prove that we have evolutionary processes that are innate to the human body, which we talk about in the book, in the detox chapter, kind of to give people an understanding that you can exercise aerobically and fill the liver with blood.

**Dr. Aly Cohen:** We know that increases blood flow to the liver, which can help cleanse the liver. We know that sleep, of course, going into all of that and how to maximize sleep for chemical detox. Saunas are also another way. Sweating, our sweating system is really important, because it can really get rid of a lot of chemicals through the skin. These are all really important aspects of how to make the liver and all of our parts really work for us and utilize that evolutionary detail.

**Dr. Aly Cohen:** Really, that's why we try to emphasize the stuff that we have instead of looking for things like cleanses and rinses and products to really do what our body does best, which it does clean itself quite well.

**Wendy Myers:** Okay. Fantastic. Let's talk about pregnant women. I mean you talked about toxins affecting fertility and hormones, why are pregnant women definitely more at risk for health issues when it comes to toxins and even young children?

**Dr. Aly Cohen:** Yeah. One more point I just forgot to make is that alcohol in terms of the liver, certainly, alcohol gets broken down through the liver and really I mean not that I love to say this, but alcohol is poisoned to the human body. I happen to love that poison on occasion, especially a really good organic beer or wine, because I always get organic, which is available now.

**Dr. Aly Cohen:** We actually have a whole section on alcohol in the book to talk about how you can choose really healthy wine and beer, but technically, our body within reason within moderation can manage that kind of poison. Fortunately, for all of us during a pandemic. But we really need to take it in moderation. Because, again, even the liver can get overwhelmed between medications that it has to break down, between environmental chemicals, between alcohol, all of this is meant to go through the liver and really that can cause a lot of stress and that's how we get fatty liver.

**Dr. Aly Cohen:** That's why I say the more you pull those away, even sugar. The more you can pull those away and limit them, then any one of them can cause the least amount of harm is the hope. Here's to 2021 and resolutions, but in terms of pregnant women this happens to be one of my favorite topics because so much of how we develop in our health as adults comes from exposure in utero, believe it or not, and as children.

**Dr. Aly Cohen:** This is a really tough pill to swallow for most of us, because we don't always have the opportunity to go back in time and do it better. I don't. I didn't know any of this stuff when my kids were born. I was doing a little better I think just instinctively trying to reduce junky food during pregnancy, definitely not drinking. But I think I would have done it so much better now that I know what I know, and that's what you have to go on, empowerment and moving forward.

**Dr. Aly Cohen:** We have a whole chapter on actually what to think about, what to do, and what to know during pregnancy, before pregnancy, and even after pregnancy with young children. I want people to know any stage along the way you can intervene because what you know you know and you do better. The issue with pregnancy, which is just so critical, is that the placenta doesn't protect a growing infant, a growing fetus, particularly their brain, which is so sensitive during fetal growth.

**Dr. Aly Cohen:** The vast majority of these chemicals have been shown to be in fetal blood. In fact, there was a 2005 study that looked at 10 random newborns and they

looked at the cord blood right after birth and they found over 200 industrial chemicals in the cord blood of these newborns, which means the mother was exposed. Obviously, not intentionally, but this is the world we're living in between air pollution, between lotions, creams, and cosmetics, tampons that we're putting inside our body, as well as on our body, as well as the food.

**Dr. Aly Cohen:** Then, of course, unfiltered water, which is an enormous source of contamination that not many people really think about too much. But pregnant women, unfortunately, have this enormous job of growing a fetus and trying to stay healthy themselves. I would hope people who read the spoke or at least are getting into this topic would know to really stop, avoid the chemicals that they don't need, air fresheners, carpet powders, all these extra chemicals that do end up getting into the skin, into their blood, even into breast milk, and crossing the placenta into a growing fetus.

**Dr. Aly Cohen:** 250,000 neurons are created every minute during a nine month pregnancy. That is an area where vulnerability is its highest. We just want to think about that and getting it right so no blame, no regrets, it's just about moving forward and doing better whenever we can.

**Wendy Myers:** Yeah, and given that aluminum is known to kill neurons and they're very excitatory, I recommend avoiding anything that has aluminum as much as you can. Let's talk about teenagers. Teenagers have their own particular vulnerabilities. Can you talk a little about that?

**Dr. Aly Cohen:** Yeah. This is an area that I love to talk about because this is where I want to focus my work, my education moving forward having done pilot projects to see whether or not teenagers are interested in this topic. This is what I discovered about teenagers. So what we know about teenagers is it's one of these very vulnerable periods where endocrine system activity is at its highest, right? Raging hormones, that's what we think of when we think of teenagers, labile moods, their bodies are changing, their voices are changing, their moods are terrible or great depending on what day of the week.

**Dr. Aly Cohen:** The idea is that because this is a very enormous shift in hormone regulation and development and creation as well as in utero and toddler years and even menopause, these are called vulnerable periods of human development when it comes to endocrine disrupting chemicals, because it can affect the endocrine system that's active at that time. This is a really important time period where these chemicals could in fact have their most, their subtle but greatest effects.

**Dr. Aly Cohen:** Interestingly, enough teenagers as a demographic use the most personal care products daily than any other demographic. They on average use 15 to 17 products daily, shampoo, conditioner, body spray, whatever, you name it, as compared to adult women who use on average 12 products a day and men who use 6 on average per day. Teenagers are not just using the most potentially toxic

chemicals, because there's a way to look them up, which I do with my high school students.

**Dr. Aly Cohen:** You can look up products on a vetted website and you can really look to see which products are safe, safer, better choices, but they're also tech savvy. They know how to make their way around computers and great websites and resources. They're body sensitive, body vulnerable, very self-conscious, so a lot of them really want to know what they are putting in, on, and around their bodies. They're very proactive on that.

**Dr. Aly Cohen:** They use the most chemicals so we want to get them to be safer if we can. They're also one day going to potentially have children, so what they do with their bodies, how they prep their bodies, how they clean up their bodies prior to pregnancy in the future is really good information. They also may likely vote one day, right? Voting is a big deal, because it can determine who leads this country in terms of environmental exposure regulations such as drinking water, such as air quality.

**Dr. Aly Cohen:** All of these together make teenagers, for me, the most vital demographic to reach among all of them, but certainly teenagers as well. I've found that they are more than interested in this topic and I'm hoping to get a national curriculum on environmental health into schools in the future.

**Wendy Myers:** I love that. I love that so much. I applaud that, that effort. I didn't really think about that demographic as using more chemicals. I know when I was a teenager I was using every cream and mask and hairspray and a lot of kids, young girls, are obsessed with their appearance and looking good, and so they're using more products. That's a great insight. I'm excited that you're focusing your work on that.

**Dr. Aly Cohen:** Even African-American young women, we have a section on that as well, because the data even within the demographic of teenagers, African-American women and young girls are actually marketed to in a big way many, many endocrine disrupting chemical products such as there's placenta in some of these hair products. This is a real problem. It's shifting their puberty earlier, earlier onset of periods for all young girls, but particularly African-American young women.

**Dr. Aly Cohen:** It's a really critical demographic within a demographic, because the more you're exposed to estrogen over a lifetime, the higher your risk of breast cancer. These are really topics even within high school students that I think people would appreciate even amongst their colleagues and their classmates.

**Wendy Myers:** Yeah. Absolutely, and African-American women are getting their hair done every week with straighteners, with formaldehyde, all these really, really toxic products and colorings and so many women color their hair too.

**Dr. Aly Cohen:** Nail products. I mean all women love their nails and there's these routines that we love, we think are normal and healthy, and once you kind of hear about how this stuff gets into our body, you're almost kind of shell-shocked. It doesn't mean you have to stop these behaviors. I want to be clear on that. The whole design of the book was to give options that are equivalent, but safer.

**Dr. Aly Cohen:** The whole goal is to switch out things to safer choices, not necessarily stopping that behavior altogether. I think that's really important, because people don't want to lose the things they love. They just may actually opt into some better choices and know how to do that clearly.

**Wendy Myers:** Yeah. The reality is we pick our poison no matter what you do, no matter what you control or you attempt to control, you still are exposed to toxins in the air, food, and water. You have to do your best, but you still have to focus on detoxification. Absolutely. What are your top five tips to help people to turn this around and protect themselves and make some changes in their environment?

**Dr. Aly Cohen:** Well, I want to tell you about one thing that I insisted on the book, which is a tear-off sheet. We have a tear-off refrigerator sheet that actually goes, and I want to say this because there's a lot of stuff that I consider sort of... Let me put it on the screen here. I want people to do this. It's a journey. It's 10 years in and I'm still fighting over things I don't want to give up like hair coloring.

**Dr. Aly Cohen:** I'm still battling out, on a personal level, I've gotten rid of my third couch in our house after 10 years that I knew had flame retardant chemicals, but we just didn't have the money to just throw another couch around for a couple grand. I think people need to realize this is a journey to begin with, and so whatever you do is worth it and a good thing, and you just keep moving on the journey.

**Dr. Aly Cohen:** The top couple of things, even though there's many. The top couple of things are don't buy stuff if you don't need it. Think about all of those cleaning products that we are spending so much money on that if you just stop buying them, you would save a fortune and you wouldn't be bringing these chemicals into the home that you spend 12, 14, even 18, 24 hours now with the pandemic.

**Dr. Aly Cohen:** You're really absorbing them through the air quality on dust, which is incredibly toxic and filled with chemicals from all the products that we use. You want to really just don't buy stuff that you don't need. Go back to old-fashioned ingredients. White vinegar is great to have at home. Sea salt, baking soda, borax, castile soap, lemon juice, all of those things are super appropriate for cleaning, and isopropyl alcohol for disinfection in terms of virus, but really just the less is more approach in terms of cleaning products is really a huge jump. That's the first thing.

**Dr. Aly Cohen:** The second thing I would say is try to avoid processed foods by consumption, food and water. We want to think about going with the least processed foods possible. Stick to the outside of a supermarket where all the fresh foods, all the

refrigerated things are because that means there's less likely to be preservatives if they're refrigerated, especially salad dressings. The idea is to have whole, clean foods or at least wash off your produce from pesticides.

**Dr. Aly Cohen:** The third thing that I really emphasize and I'll give you a couple more, but is drinking water. Everyone really should consider a filter for their water system. They don't have to be expensive. They range in terms of how aggressive they are. You can have a pitcher filter like a Brita or a ZeroWater that's called a carbon block filter, but it tends to be limited in how much it can take off of water, because it runs through that block so quickly.

**Dr. Aly Cohen:** Then, you have this opposite extreme which I recommend called a reverse osmosis water system that actually water goes through so slowly that it has its own tank to fill up during downtime. That's the most aggressive thing you can buy on the market and they run \$250, 300. I get mine and recommend patients to companies in California that actually manufacture all of the parts in the United States, and I'll give you that name if you want to put it on your website. I just don't actively promote any brands at all, but the idea is an RO filter is really critical. They cost 250 to 300. They're right in your kitchen sink just for cooking and drinking.

**Dr. Aly Cohen:** The plumber costs 150 to put it in in one hour only. It's about \$40 a year to change out those cartridges that anyone can do. That's a system that I think is critical for anyone who drinks water, period. Fourth thing is probably the dust. Dust is so heavily laden with chemicals that come from carpeting and couches and cleaning products and all that stuff, so if you can't clean up those products, you at the very least want to get the dust off the floor where kids put it in their mouths and pets have it on their paws and they lick their paws.

**Dr. Aly Cohen:** Again, exposure and dust is pretty worthwhile to wipe with wipes that are water, not chemical based. Wipes, which is a silly mistake people make, but I understand it. You just don't want to buy commercial wipes. You just need a paper towel and water. Then, I would say plastics. Heated up plastics are really not good for any human body. You don't want to put your food or drinks in any hot plastics.

**Dr. Aly Cohen:** You want to switch to glass or stainless steel. Right here I have my stainless steel mug. I don't even have a plastic lip to it. I actually have to take it off so that this is the only thing that I touch when my hot coffee or tea is going down. Once you change out these kinds of things.. one time I bought three of them and that's it. Once you change out and swap out some of these Styrofoam, plastic containers and lids, you're done.

**Dr. Aly Cohen:** Those are the big ones I would say. I could go on and on. Radiation, we have a whole chapter on cellular technology and cell phones and wi-fi and it's not to say get rid of it all. That's not realistic, especially now the pandemic everyone's

home. My kids are remote. It's really to say, how do we use all these tech toys safely. There's tons of really easy ways to manage tech toys.

**Dr. Aly Cohen:** I don't let my boys put their cell phones in their pockets near their sensitive genitalia. I say, "I want to be a grandmother one day." We need to think about radiation in terms of the kind, and of the closeness to the body. Be it the head, be it the breast, you don't want to carry them in your bra. You don't want to put them in the front pockets of your pants. You really want to turn them off. Airplane mode is really critical. There's lots of good tips in that chapter to explain why there's a problem, and then what we can do about it.

**Wendy Myers:** Yeah. I mean Rome wasn't built in a day. You have to learn about this stuff and pick off the lowest hanging fruit first, what you have the time to do and what you have the money to do. It can be overwhelming, but I like the other simple guide. There's certain places you want to start first before you get more advanced. Let's talk about the kind of topics that you're most passionate about, that you're most concerned about when it comes to chemicals.

**Dr. Aly Cohen:** Yeah. I mean having done this for a while and having taken myself off the ledge many times of panic, because the more I read the more I get upset about it, but then I kind of try to put it in a practical perspective and realistic perspective, but I do believe water, drinking water is highly underrated when it comes to concern. When I look back and think of all the restaurants I sit down in and just people plop water on your table and you drink it, you just don't think about where it came from. Is it well water? Is it municipal tap?

**Dr. Aly Cohen:** I mean at least municipal tap water, which is horrible, has 91 chemicals that are regulated. Meaning they find those chemicals, those 91 chemicals and they're too high in the treatment plant, they'll remediate it. Okay. That goes for benzene, arsenic, that kind of thing, however, and these 160,000 water treatment plants in the US. Okay. They serve about 85% of the US population. Most of us get our drinking water from municipal tap treatment or city water so to speak, but they're only required under the Safe Drinking Water Act of 1974 to manage these 91 chemicals when we have 90,000 that can get into that water and do get into that water, sewage, manufacturing chemicals, farming chemicals, runoff leakage, coal ash. I mean the list goes on and on.

**Dr. Aly Cohen:** What I really think people should consider, if there was one thing I would wish for people in the new year, just by volume and how much we drink and feed our children water, really consider a water system that makes them feel good. That you don't have to go out and buy plastic water bottles, which feeds plastics into the water. It saves money. It's better for the planet and really pays itself off in terms of these bottles that people bring home, which I used to bring home pallets and pallets of plastic drinking bottles, because I was afraid of my tap water.

**Dr. Aly Cohen:** Well, now I say don't even test your tap water. Don't even test your well water.

**Wendy Myers:** It's contaminated. Trust us.

**Dr. Aly Cohen:** It's contaminated. You know the punch line, it is definitely contaminated. If it's at a level that EPA says it's okay, even that's too high. I assure you. I want people to really consider if there's one thing, consider an aggressive water filter system in your home, even in an apartment, ask your landlord. It can be put in. It can be taken out, but it's not a big deal. It makes water, it literally just takes everything off of water and if people tell me, "Well, what about minerals?"

**Dr. Aly Cohen:** Forget it. Get your minerals from great clean healthy salads and fruits and vegetables. You can replenish with minerals. You can get all that back in vitamins, nutrients, you don't need it from your water. What you don't need from your water is toxic chemicals and contaminants. That's the biggest thing you can do I think individually and for families, even for your pets. I mean because my pets drink water from that water as well.

**Wendy Myers:** Absolutely. I mean minerals make the water taste kind of nice and have a nice mouth feel if you're paying attention, but, yeah. Then, there's testosterone in the water and people are urinating their medications, their medications are in the water. It's so disgusting.

**Dr. Aly Cohen:** It's because these treatment plants aren't capable. They don't have the modern day infrastructure to remove oral contraceptives, blood pressure medications, antipsychotics, waste water, fracking chemicals. Believe it or not, anything that lands on a stream, a lake, or into the aquaphor of soil will make its way into a municipal tap water treatment plant to be cleaned, and mostly what they clean off of it is really the 91 chemicals if they can, but then also trees and leaves and dirt and all that.

**Dr. Aly Cohen:** Then, what's left is stuff that just was never able to be taken off in the first place. That will go right out through PVC piping 20 miles to your home. You got all that piping chemical, you got any breaks in that water line, and then it goes right into your sink. So by getting a filtration system like a reverse osmosis with a carbon component, you're really cleaning it at the point of use. It doesn't matter if you have a well and it doesn't matter if you have tap water. It doesn't matter. The water line coming in is what is cleaned.

**Wendy Myers:** Yeah. It's also scary to think about your shower water. That's also a problem and that's why I advocate for people to get a whole house water filter if they're able to, but you want to be absolutely thinking about the water that you're drinking, but even if you're drinking perfectly filtered water, you want to be concerned about the shower water too.

**Dr. Aly Cohen:** There's a lot of tips in there about shower water in the book. Let me tell you, these whole house filters can really run thousands of dollars and I'm not saying you shouldn't do it, if you got the money, go for it. We never wanted to or we couldn't spend the money on that, because we had other expenses. What I

recommend in terms of what you just said, Wendy, is you can actually go to a big box store and get a shower head that has a carbon filter in it. It's 17 bucks.

**Dr. Aly Cohen:** We talk about this in the book in the water drinking water chapter, you can actually replace that every six months and it'll be far cheaper than \$6000.

**Wendy Myers:** Yeah. Absolutely. It'll get a lot of stuff which is great. Fantastic.

**Dr. Aly Cohen:** Yeah. Chlorinated water. Yeah. Absolutely.

**Wendy Myers:** Yeah. Tell us where we can learn more about your work, learn more about you and what you do and you have a podcast too.

**Dr. Aly Cohen:** Yeah. That just started. I started a platform out of frustration along with a lot of other frustration I had with not understanding this material, not knowing why I didn't learn it in med school. I started a platform called The Smart Human. I wanted people to realize that we're all humans and that's a defining common denominator.

**Dr. Aly Cohen:** It's called The Smart Human on Facebook and Twitter and Instagram and, of course, the website, [thesmarthuman.com](http://thesmarthuman.com). Then, also the podcast is on Apple iTunes and other places you can get your podcast. It's called The Smart Human, and essentially it's an environmental health and prevention platform. I teach and share Monday, Wednesday, Friday on Facebook, which I'm particularly proud of, because it's pretty straight stuff, no kitschy stuff, no sales, no endorsements, nothing.

**Dr. Aly Cohen:** Instagram's a little more fun. I post meals that I put together and why they're important, what the nutrients are, and all that stuff, little hacks. It's a little more fun and kitschy and you know how Instagram is, right? But Facebook is definitely more straight stuff, really cool articles and just mental health Fridays I have. Mondays are usually sustainability. Wednesdays are usually physiologic, nutrition, cancer prevention, chemicals and how they work. I try to keep it interesting. I hope people will follow there.

**Dr. Aly Cohen:** Then, of course, I practice in Princeton, New Jersey. Where are you located actually?

**Wendy Myers:** I'm in Mexico. I just moved.

**Dr. Aly Cohen:** It looks so pretty outside your window. That is definitely not where I am.

**Wendy Myers:** I moved from Huntington Beach, California. I kind of was escaping the lockdown. Then, I moved to Houston, which I was not feeling terribly inspired there, but near my family. Then, I decided to flee to Mexico. I made an amazing decision.

**Dr. Aly Cohen:** I'm stuck here in Princeton until things quiet down, but if people want any type of consults or medical telemedicine, I do that all over the world, and especially now with COVID, I'm doing a lot of vaccine evaluations for people believe it or not, with immune system problems. Who knew that was going to be a thing, but it is. People can always reach me through my medical practice which is Aly@alycohenmd.com. Aly, A-L-Y@A-L-Y-C-O-H-E-Nmd.com.

**Wendy Myers:** Okay. Fantastic. Fantastic. Well, you, guys, you heard it. That's where you can talk and contact Dr. Aly. Again, thanks so much for coming on the show. Is there anything else that you left out or maybe you wanted to discuss that we didn't address yet?

**Dr. Aly Cohen:** Well, I'll just mention a couple of things. Again, I'm proud of the book, because it took eight, nine years. It really is my baby. I think it's put together in a way that shouldn't scare anybody. It should empower us, but I also want to mention some pretty pertinent topics now, vaping. I do a section on air quality, indoor and outdoor, but also vaping and some of the health related issues if you have teenagers and anyone who wants to learn about vaping and what the issues are.

**Dr. Aly Cohen:** I talk about soccer turf. I have two young boys. These are the issues that come up in my life that I have environmental goggles on. I talk about what soccer turf, sports turf is all about, what to think about. I haven't taken my kids off the fields. They love their sports. It's how to manage soccer, soccer turf, and all of these chemicals in a way that's reasonable. I think that's the sell on this, is that it's not to scare anyone or create resistance. It's really to try to pull people in and empower them in a way that works for them.

**Wendy Myers:** I mean you have to navigate our toxic world. Yeah. Vaping is such a horrible thing. My brother's wife died of cancer, lung cancer last year because she switched from cigarettes to these cheap flavored vapes for four years thinking she was being healthier because they were marketed that way.

**Dr. Aly Cohen:** No regulation and they're often more toxic because they get away with flavors and things that have just... Again, never been tested for safety, but the ones that are in there have some identifiable form to them. We know that from some of those ingredients and it's just a wild Wild West. There's options. It's just a matter of people wanting to open up the hood and see what's in there for that topic. But, again, it's not to scare people away.

**Dr. Aly Cohen:** I have a whole chapter on medications, very common medications like statins and reflux medications. I'm talking about how to manage pain control. As an integrated rheumatologist, I manage pain all the time and I'm trying to give people options other than medication if it's appropriate, and there's so many great ideas there. Again, just a different perspective so people might be interested.

**Wendy Myers:** Yeah. I love it. Everyone, go out and get the book. I highly, highly recommend it.

**Dr. Aly Cohen:** It's called Non-Toxic. It's on Amazon, Barnes and Noble and a bunch of independent store sellers. I hope they get business too, but it's Non-Toxic, Guide to Living Healthy in a Chemical World, and my co-author actually is Dr. vom Saal, who's a renowned neuro and reproductive endocrine biologist. He was largely known for his research which was responsible for having BPA or bisphenol A taken out of baby bottles in 2012.

**Wendy Myers:** Oh, wow.

**Dr. Aly Cohen:** I feel very humbled and honored to work with him. He's a wonderful person.

**Wendy Myers:** Well, I would love to have him on the podcast too. If you could recommend-

**Dr. Aly Cohen:** Yeah. I'm sure he would do it. He's great.

**Wendy Myers:** Fantastic. Fantastic.

**Dr. Aly Cohen:** I will connect you with him.

**Wendy Myers:** Great. Well, Dr. Aly, thanks so much for coming on the show, and everyone, thanks so much for tuning in to the Myers Detox Podcast. It is my pleasure and my honor to be able to educate you every week on this topic that I'm so passionate about. You need to be living that detox lifestyle doing something every day to avoid or remove toxins from your body. Thanks for tuning in. I'm Wendy Myers of [myersdetox.com](http://myersdetox.com) and I hope you've had a wonderful start to 2021. I have so much to look forward to and so many amazing topics to talk about in 2021. Talk to you guys soon.